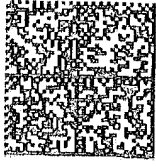Organization **TC2600.** Bldg./Room **PK2**

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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,082	08/17/2001	Gregory Robert Roelofs	US018121	5453

7590   11/02/2004

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EXAMINER
LEE, HWA C

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/932,082	ROELOFS, GREGORY ROBERT
	Examiner	Art Unit
	Hwa C Lee	2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07/06/2004</u>.

2a)☒ This action is **FINAL**.　　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-38</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-38</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>06 July 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   This office action is in response to the amendment filed 07/06/2004.

Response to Arguments

2.   Applicant's arguments filed 07/06/2004 have been fully considered but they are
not persuasive.

3.   In regards to claims 1, the applicant asserts that "mere graphing of the arctan
function itself, as purportedly performed b HP 48" does not teach the limitations as
recited by the applicant. The applicant further contends that the currently amended
claim 1, recites that the dataset received is too large to display on "a target first
dimension" of a display of finite dimensions, and further, that the control unit maps at
least a displayable portion of data points contained in the data set onto "the first
dimension" of the display by application of the recited equation. Consequently, the
applicant asserts that HP 48 does not teach said limitations. The examiner has
considered the applicant's argument in full but has found the argument not persuasive
for the following reasons.

4.   First, the applicant is reminded that although the claims are interpreted in light of
the specification, limitations from the specification are not read into the claims. See *In
re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As currently
amended, claim 1 is recited as follows:

     Claim 1: A system comprising a control unit that receives a data set that is too
     large to display on a target first dimension of a display of finite dimensions, the

control unit mapping at least a displayable portion of data points contained in the

data set onto the first dimension of the display by applying a mathematical

equation comprising a nonlinear and continuous mathematical function having a

finite range and at least one independent variable of infinite domain, the

displayable portion of the data points being displayable on the first dimension of

the display, the displayable portion being determined by selecting one of the data

points in the data set to correspond to a reference position on the display, the

data set being traversed on the display by changing the selected data point that

corresponds to the reference position.

Thus, the applicant recites a system comprising a control unit that receives data set that

is to large to display on a target first dimension of a display of finite dimensions. As

shown in the previous office action, HP 48 is a scientific calculator with a graphical user

interface (GUI) for the user to input data, and thus said GUI specifically is a control unit.

HP 48 explicitly comprises a display for the user to enter data and to analyze and graph

said input data. Said graph is generated on a 2-D display having x- and y-axis, which

specifically is a display of finite dimensions. HP 48 allows the user to graph a plurality

of mathematical functions including the arctan function. It is well known in the art that

an arctan function graphs a set of data having no limit, which specifically is data set that

is too large to display on a target first dimension of a display of finite dimensions. Since

the user can enter the data range for graphing the arctan function, HP 48 specifically

receives data too large to display on a display of finite domain. In addition, "a target first

dimension" is broadly interpreted as the displayable area having x- and x-axis of the

arctan graph having a set display range. Since the display of the HP 48 can only show a finite range at a time due to size issue, any given range of x-and y-axis shown on the display in displaying the arctan function specifically is "a target first dimension" of a display of finite dimensions. Further, the examiner asserts that applying the input data of a user to the arctan mathematical function specifically is applying the mathematical function to the data set as recited by the user. As long as the user is allowed to enter a data set, the HP 48 applied the arctan function to the data set.

5.   In regards to claims 2-38, the same argument is made.

6.   In regards to claims 13-14, the applicant makes another specific argument. The applicant asserts that the "zoom" function of HP 48 provides a uniform scales of the axes, whereas the applicant recites "continually" changing scales of the axes. The examiner disagrees with the applicant for the following reason. HP 48 clearly allows the user to change the scales of the axis (for example by the zoom function). As long as the user continually applies the "zoom" function (zooming in at various axis locations and zooming back out), said scales of axes are continuously changing. In addition, when the user changes the input data, said scales of the axes will continuously change as long as the input data continuously change to reflect the changes in data. Said continuous changing of the axes scales in responds to changing input data is well-known in the art of data graphing.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-10, 12-32, and 38 are rejected under 35 U.S.C. 102(b) as being

anticipated by Hewlett Packard HP 48 Owner's Manual.

9.   In regards to claim 1, Hewlett Packard HP 48 Owner's Manual discloses the

following:

A system comprising a control unit that receives a data set that is too large to

display on a display of finite dimensions,

- Hewlett Packard HP 48 Owner's Manual describes the properties of HP 48,

    which is a scientific calculator with graphing functions. Data is inputted to HP 48

    and stored using the stack, which is a series of storage location for numbers and

    other objects (Page 2-3). A user interface comprising a display and a keyboard

    allow the user to input said data (Pages 2-4 to 2-5). Said user interface is

    specifically a ***control unit that receives a data set***. In addition, HP 48 allows

    data transfer between two HP 48s or between an HP 48 and a computer or with

    an HP 48 and any other serial device, such as a printer (Page 33-1). Said

    transfer of data requires proper setting of the I/O parameters (Page 33-4).

    Transfer of data between two HP 48s is executed using the infrared port (Pages

    33-8 to 33-9), and transfer of data between a HP 48 and a computer is executed

using a serial interface cable (Pages 33-10 to 33-13). Thus the communication port using the I/O parameters is also specifically a ***control unit that receives a data set***.

- The Equation Writer application allows the user to enter algebraic expressions and equations (Pages 16-1 to 16-10). Once the equations are entered, graphs of the equations are drawn using the Plot application (Pages 18-1 to 18-4). Some of the equations (i.e., trigonometric functions: Sine, Arc Sine, Cosine, Arc Cosine, Tangent, Arc Tangent (Page 9-9)) entered using the Equation Writer application specifically are data sets too large to display on a display of finite dimensions. Thus, X and Y-axis display ranges must be specified in order to display the said large data set on a display of finite dimensions (Pages 18-8 to 18-14).

the control unit mapping at least a displayable portion of data points contained in the data set onto the display by applying a mathematical equation comprising a nonlinear and continuous mathematical function having a finite range and at least one independent variable of infinite domain,

- By interfacing with said user interface (display and keyboard), the equations entered using the Equation Writer can be plotted by first setting the plot parameters using the PLOTR menu in the PLOT function menu (Pages 18-8 to 18-10) and then drawing the graph of said equations using the DRAW menu (Pages 18-11 to 18-14). Said equations represent a dataset of infinite domain (for example, Arc Tangent (ATAN)). When drawing a graph of y = ATAN (x) as entered using the Equation writer, the graph is a display of the data set

represented by the function ATAN (x), wherein applying y = ATAN (x) specifically

is applying *a mathematical equation comprising a nonlinear and continuous*

mathematical function. In addition, the dependent variable (y) has a finite rage

(i.e., from -π/2 to + π/2), and the independent variable (x) has an infinite domain.

For the purpose of drawing the dataset to be displayable, the x and y ranges are

inputted by the user through the user interface as applied above.

the displayable portion of the data points being displayable on the display,

- By specifying the x and y range, the data is displayable on the display as applied

  above.

the displayable portion being determined by selecting one of the data points in

the data set to correspond to a reference position on the display,

- In order to draw the graph of the equation (data set), the display range or scaling

  must be set. One method of setting said display range or scale is to select the

  "center" of the graph (Page 18-9 to 18-10). By setting the "center", the center of

  the display is selected, which specifically is *selecting one of the data point in*

  the data set to correspond to a reference position on the display.

the data set being traversed on the display by changing the selected data point

that corresponds to the reference position.

- A different region of the graph can be plotted without rescaling by pressing the

  directional buttons and changing the "center" position of the display while in the

  DRAW mode (Page 18-22, 3^(rd) paragraph). Plotting a different region without

  rescaling is specifically *traversing the data set on the display by changing*

the selected data point that correspond to the reference position. In addition, the x, y display range can be changed to display a different portion of the data set, and said x, y display range specifically are reference positions since the portion of the data set to be displayed is dependent on the x, y display ranges.

10.   In regards to claim 2, the same basis and rationale for claim rejection as applied to claim 1 above are applied.

The system as in claim 1, wherein a first displayable portion of the data set is replaced with a second displayable portion of the data set when traversed.

- Traversing the data set as applied above (plotting a different region of the graph) specifically is *replacing the first displayable portion of the data set with as second displayable portion of the data set* since a different region of the graph is now displayed on the display screen.

11.   In regards to claim 3, the same basis and rationale for claim rejection as applied to claim 2 are applied.

- When performing the said plotting of a different regions of the graph (traversing the data set), the data points located in between the first reference point and the second reference point are traversed in a continuous and nonlinear manner in accordance with the mathematical function. By pressing the directional button and selecting a new center point as applied to claim one above, the new display portion of the data set is the graph of the new displayable data points not visible before the said traversal. The said plotting of the new region of the data set specifically is moving the display window of the graph along the independent (x) axis having infinite domain as shown by the following diagram. In addition, the plot coordinates can be changed to include more data points of the data set to be displayed using the PICT function (Pages 19-8 to 19-11).

12.   In regards to claim 4, the same basis and rationale for claim rejection as applied to claim 1 are applied. The "center" reference point specifically is a **central postion of**

1st display portion   2nd display portion
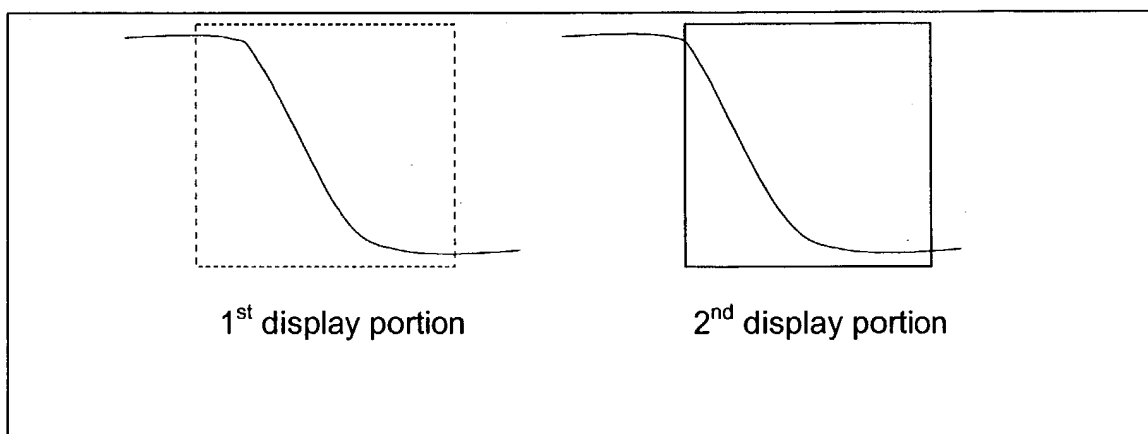
the displayable portion of data points on the display.

13.   In regards to claim 5, the same basis and rationale for claim rejection as applied to claims 1 and 3 are applied. By using the Equation Writer, said equation (representing

a data set) can be modified, and since equations comprising trigonometric functions are by definition nonlinear, any modification in the equation will be nonlinear. For example, said equation of y = ATAN (x) as applied above, can be modified to multiply by a factor of (5*COS (x)), which results in a modified equation of y = (5*COS (x)) * ATAN (x). Thus (5*COS (x)), the coefficient of ATAN (x), which specifically is a parameter of the mathematical function, is adjusted. Thus, the y-axis is scaled in a non linear fashion. In addition, the x, y display range can be manually changed as applied to claim 1 above.

14.   In regards to claim 6, the same basis and rationale for claim rejection as applied to claim 1 are applied. The independent variable (x) of infinite domain is by definition **unbounded in at least one of magnitude and number**.

15.   In regards to claim 7, the same basis and rationale for claim rejection as applied to claim 1 above. Drawing or plotting the example equation of y = ATAN (x) is specifically **mapping data points of the data set onto the display as the at least one independent variable of the mathematical function**. The independent variable specifically is **at least one independent variable of the mathematical function**.

16.   In regards to claim 8, the same basis and rationale for claim rejection as applied to claim 1 above. The example equation of y = ATAN (x) comprises specifically **a data set too large to display due to the number of data points in the data set**. Thus, in order to display the data set, the x, y display range must be specified, which specifies the display portion of the said **too large data set**.

17.   In regards to claim 9, the same basis and rationale for claim rejection as applied to claim 8 above. Too many data points specifically is too large of data range. In

addition, the x, y display data range can be inputted with a range too large to be displayed on the display screen.

18.   In regards to claim 10, the same basis and rationale for claim rejection as applied to claims 1 and 7 above. Said display of data set as applied to claim 1 above clearly represents **one-dimensional data set with at least one independent variable of the function.**

19.   In regards to claim 12, the same basis and rationale for claim rejection as applied to claims 1 and 3 above. Once the x, y display range of the equation is set by the user, the equation is completely displays the data points within the set range.

20.   In regards to claim 13, Hewlett Packard HP 48 Owner's Manual discloses the limitations of **the system according to claim 1, wherein the displayable portion is mapped on an axis of the display and the scale of the axis continually changes** (Page 18-22 to Page 18-24). The ZOOM function by rescaling the axes specifically changes the scale of the axis continually as the ZOOM area is changed using the directional button.

21.   In regards to claim 14, the same basis and rationale for claim rejection as applied to claims 3-5 and 13 are applied. On Page 18-23, the method of zooming on a particular region using the Z-BOX function and the directional button. When the data set is not traversed, the user can apply a ZOOM factor of 2, which specifically **provides a relatively expanded scale for the data mapped about the midpoint of the displayable portion**. The user can then move the area to zoom as the portion of the graph to the right or left of the "center" reference point and then apply a ZOOM factor of

0.5 (less than 1) to show half the axis (Page 18-22), which specifically is *a continually reduced scale on each side of the midpoint of the displayable portion as the mapping approaches ends of the axis.*

22.   In regards to claim 15, the user interface comprising a display and a keyboard as applied to claim 1 above is specifically a *user interface that provides input to the control unit, wherein the user interface allows the user to do at least one of entering at least some of the data points of the data set, changing the parameters of the mathematical equation and selecting the displayed data points.*

23.   In regards to claim 16, the same basis and rationale for claim rejection as applied to claim 15 are applied. The said user interface comprises of selectable menu displayed on the bottom of the display screen, which specifically is a GUI (Page 1-2, No. 8). In addition, the keyboard including the directional button is also specifically a GUI since the directional button allows for cursor movement (Page 18-20) and coordinate determination on a display.

24.   In regards to claim 17, the same basis and rationale for claim rejection as applied to claim 1 are applied. The example equation of y = ATAN (x) has a finite range for the dependent variable (y) as applied to claim 1 above. The display of the equation will display the y-axis corresponds to the finite range ((i.e., from -π/2 to + π/2), which specifically is the displayable portion. The finite range for the independent variable (y) is due to the mathematical function. In addition, any equation with a constant coefficient for the independent variable (x) will comprise a finite y-axis range.

25.   In regards to claim 18, Hewlett Packard HP 48 Owner's Manual discloses the limitation of applying axis labels (Page 19-2, Last Paragraph – Page 19-3). In addition, the coordinates of any point on the display can be added selectively and variably to any point on the display (Page 18-28; Page 18-31, 3rd Paragraph; and Page 18-34). The cursor positioned at any point on the axis must display the coordinate of said cursor position, which specifically is **marked and labeled axis**.

26.   In regards to claim 19, Hewlett Packard HP 48 Owner's Manual discloses the limitation of **wherein the mathematical function is one selected from the group of arc tan, cot, tanh and sin^{-1}** (Page 9-9 and Page 9-6).

27.   In regards to claim 20, the same basis and rationale for claim rejection as applied to claims 1 and 3 are applied. **Traversing the data set in a nonlinear and continuous fashion across the displayable portion in accordance with mathematical function upon continuous section selection of consecutive data points as the data point corresponding to the reference position on the display** specifically is changing the "center" reference position to traverse the data set as applied to claim 3 above. Since the mathematical equation ($y = ATAN (x)$) is nonlinear by definition, traversing said equation on a graph by selecting consecutive data points specifically is nonlinear and continuous. In addition, the user can selected a random data points in order, wherein the data points are non-equal distance apart from each other, for use as the "center" reference point. By selecting non-equal distance apart data points, the **traversal of the data set will be non linear and continuous fashion**.

28.   In regards to claim 21, the same basis and rationale for claim rejection as applied to claim 20 are applied. Using *at least a portion of the consecutive data points as a reference position parameter in the mathematical function to calculate consecutive displayable portions of the data set in order to traverse the data set across the displayable portion in the nonlinear and continuous fashion* specifically is changing the "center" reference position to traverse the data set as applied to claim 3 above. The use can selected a random data points in order, wherein the data points are non-equal distance apart from each other, for use as the "center" reference point. By selecting non-equal distance apart data points, the *traversal of the data set will be non linear and continuous fashion*. In addition, since the selection of said data points are random but in order, the said selected points are *at least a portion of the consecutive data points*.

29.   In regards to claim 22, the same basis and rationale for claim rejection as applied to claim 1 are applied.

30.   In regards to claim 23, the same basis and rationale for claim rejection as applied to claims 1 and 3 are applied. The system of processing a data as applied to claim 1 above is executed by a software comprising a plurality of functions running on the scientific calculator, which specifically is a hand held computing apparatus with memory, processor, and a plurality of software executing instructions to perform the functions of the scientific calculator. In addition, the HP 48 scientific calculator as disclosed by the Hewlett Packard HP 48 Owner's Manual discloses creating user created programs (Page 1-40 to Page 1-43), and allows the user to download files, which specifically

comprises software as applied to claim 1 above. In addition, in order for said software to draw the equation and output the displayable portion to the display screen, the software must calculate (determine) all points within the user specified x, y display range and display those points according to the mathematical function of said equation. Further, the specific data points to be determined by the drawing function are dependent upon the selection of the "center" reference point and said x, y display range.

31.   In regards to claim 24, the same basis and rationale for claim rejection as applied to claims 5 and 23 are applied.

32.   In regards to claim 25, the same basis and rationale for claim rejection as applied to claims 6 and 23 are applied.

33.   In regards to claim 26, the same basis and rationale for claim rejection as applied to claims 7 and 23 are applied.3

34.   In regards to claim 27, the same basis and rationale for claim rejection as applied to claims 8-9 and 23 are applied.

35.   In regards to claim 28, the same basis and rationale for claim rejection as applied to claims 15 and 23 are applied.

36.   In regards to claim 29, the same basis and rationale for claim rejection as applied to claims 17 and 23 are applied.

37.   In regards to claim 30, the same basis and rationale for claim rejection as applied to claims 19 and 23 are applied.

38.   In regards to claim 31, the same basis and rationale for claim rejection as applied to claims 20 and 23 are applied.

39.   In regards to claim 32, the same basis and rationale for claim rejection as applied

to claim 23 are applied. Hewlett Packard HP 48 Owner's Manual clearly discloses

communicating between two HP 48 calculators or between a HP 48 calculator and a

computer using a Local/Local or Local/Server connection (Page 33-2 to 33-3).

40.   In regards to claim 38, the same basis and rationale for claim rejection as applied

to claim 1 are applied. The nonlinear, continuous mathematical functions as applied to

claims 1, 19 and 30 are used to create equations using the Equation Writer as applied

to claim 1 above. Such equation creation specifically is modeling the nonlinear,

continuous mathematical functions. In addition, Hewlett Packard HP 48 Owner's

Manual discloses the limitation of statistical application, wherein statistics are calculated

and drawn as plots on a display screen. Said calculating and drawing of statistics

comprises "Curve-fitting with four models (linear, logarithmic, exponential, and power)"

(Page 21-1). Logarithmic, exponential and power models specifically are nonlinear

continuous mathematical functions.

Claim Rejections - 35 USC § 103

41.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

42.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

43.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hewlett

Packard HP 48 Owner's Manual in view of Byrne, et al.

44.   In regards to claim 11, Hewlett Packard HP 48 Owner's Manual discloses all

limitations of claims 1 and 10 above, but does not explicitly disclose the limitation of a

multi-dimensional data set. Byrne et al. Clearly discloses the said limitation (Page 17,

Left Col., 3D Plotting – Page 18).

45.   It would have been obvious to one of ordinary skill in the art to take the teachings

of Hewlett Packard HP 48 Owner's Manual and to add from Byrne et al. the method of

3D Plotting in order to display a multidimensional data set. In addition, Hewlett Packard

HP 48 Owner's Manual describes the HP 48 scientific calculator, and Byrne et al.

describes HP 48G scientific calculator, which is the updated model of HP 48. HP 48G

improved upon the HP48 by adding new functions comprising the 3D Plotting function,

and thus the combination is obvious and has already been performed.

46.   Claim 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hewlett Packard HP 48 Owner's Manual in view of Roschelle et al., U.S. Patent No.

6,628,918.

47.   In regards to claim 33, Hewlett Packard HP 48 Owner's Manual discloses the

limitation of connecting the HP 48 calculator with a computer using a Local/Local or

Local/Server setup in order to transfer files between the devices as applied to claim 32

above. In addition, the limitation of receiving input parameter data from user is

disclosed as applied to claims 15-16 above. Hewlett Packard HP 48 Owner's Manual

does not explicitly disclose the limitation of a **remote server**.

48.   Roschelle et al., however, clearly discloses the limitation of **a remote server in**

communication with a local server, the remote server receiving input parameters

delineating the displayable portion of the data set by a user at the local server,

the remote server outputting to the local server a mapping of the displayable

portion of the data set.

- Roschelle et al. discloses an educational environment, wherein a plurality of thin

    client devices (hand held computing devices, which specifically are local

    servers), are in communication with a networked server computer (remote

    server). Said networked thin client devices comprise wireless capability (Col. 3,

    lines 16-35 and lines 43-58). In addition, said networked thin client devices

    comprise a wide variety of features. Said features comprise a means of graphic

    and textual output and a means of networking with other like devices and with a

    server. Said networked client devices comprise personal digital assistants,

    handheld gaming toys, cell phones, tablet-based computers, personal

    computers, and graphing calculators (Col. 3, line 59 – Col. 4, lines 9). Further,

    an infrared (IR) I/O system allows for data transfer with peer devices of any type

that support similar IR emitter and sensor and a compatible communication

protocol (Col. 4, line 63 – Col. 5, line 3).

- Roschelle et al. discloses using said networking system to interact between the

  remote host server and the local client server devices, wherein the remote host

  server in creating a final image uses the inputs from the local client server

  devices. Similar networking system is applied to HP 48 graphing calculator.

  Since Roschelle et al. discloses the limitation of the remote host server receiving

  input data from the local client server devices, the input data specifically is the

  input parameters for displaying the displayable portion of the data set, and the

  image outputted back to the local client server device from the remote host

  server is the output mapping of the displayable portion of the data set.

49.   it would have been obvious to one of ordinary skill in the art to take the teachings

of Hewlett Packard HP 48 Owner's Manual, and to add from Roschelle et al. the

networking system in order to exchange data between a remote host server and a local

client server device. The HP 48 calculator comprises data transfer function using the

built in I/O port with a serial cable connection or an IR connection. Thus, HP 48

calculator can communicates with a computer in order to exchange files, which

specifically are input and output data for displaying the displayable portion of the data

set. Since Roschelle et al. teaches connecting a plurality of networked thin client

devices comprising a graphing calculator, the HP 48 calculator can be modified to

connect to a remote server as taught by Roschelle et al. Then all data processing and

displaying limitations as applied to claim 1 can be performed by exchanging the

necessary input and output data between the remote server and the local server (HP 48

calculator).

50.   In regards to claim 34, the same basis and rationale for claim rejection as applied

to claims 32-33 are applied.

51.   In regards to claim 35, the same basis and rationale for claim rejection as applied

to claims 20 and 32-34 are applied.

52.   In regards to claim 36, the same basis and rationale for claim rejection as applied

to claim 32 are applied. In addition, Roschelle et al. discloses the limitation of the

remote host server connecting to remote data on the Internet (Col. 3, lines 43-57). In

order to access the remote data on the Internet, a website must be used as the

interface for accessing said remote data.

53.   In regards to claim 37, the same basis and rationale for claim rejection as applied

to claims 32-36 are applied.

Conclusion

54.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hwa C Lee whose telephone number is 703-305-8987.

The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

Hwa C Lee
Examiner
Art Unit 2672

HCL
10/21/2004

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600